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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,364	12/15/2003	Youngwoo Kwon	PA2589US	6025
22830	7590	05/19/2005	EXAMINER	
CARR & FERRELL LLP 2200 GENG ROAD PALO ALTO, CA 94303			NGUYEN, KHANH V	
			ART UNIT	PAPER NUMBER

2817

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/737,364

Applicant(s)

KWON ET AL.

Examiner

Khanh V. Nguyen

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 10, 11, 13-19 and 21-37 is/are rejected.
- 7) ☒ Claim(s) 2-9, 12 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear which "first differential output signal" and "second differential output signal" are intended since it is known in the electrical art that word "differential" means "two".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 13-15, 19, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Upton et al. (5,420,541).

Regarding claims 1, 19, 21, Upton et al. (Fig. 4) disclose a power amplifier circuit comprising: a carrier amplifier (30/48) having an carrier input terminal via its gate and a carrier output terminal via its drain; a peak amplifier (32/50) having a peak input terminal via its gate and a peak output terminal via its drain and a control terminal for receiving a voltage control signal (V_{DD}/V_{GP}), the peak amplifier can be configured to vary at least one characteristic of the power amplifier based upon the voltage control signal; an input quadrature hybrid network (42) can be read as an active phase shift coupled to the carrier input terminal and the peak input terminal for generating a peak amplifier input signal 90 degrees out-of-phase from carrier amplifier input signal; and a microwave network (64) together with output matching network (66) can be read as a matching unit coupled to carrier output terminal and the peak output terminal for transmitting carrier output power signal and a peak output power signal and forming a power amplifier output power signal at a power amplifier output stage (OUTPUT).

Regarding claim 13, wherein the microwave network (64) is a first transformer and output matching network is a second transformer having the connection as claimed.

Regarding claim 14, wherein the output matching unit is implemented with lumped reactive component (see col. 9, lines 36-39).

Regarding claim 15, wherein at least one characteristic of the power amplifier is linearity.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10, 11, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Upton et al.

Regarding claim 10, 11, Upton et al. disclose the claimed invention except the components are integrated on a semiconductor die or semiconductor dies. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have integrated all the components or a portion of the component together on a semiconductor die or semiconductor dies, because it is simpler and less costly. Note, Upton et al. circuit is implemented in an integrated microwave technology.

Regarding claims 16, 17, Upton et al. disclose the claimed invention except a baseband modem chipset claimed. However, applicant admitted such a feature is well known in the art (see applicant's specification). As such, utilizing such a well known baseband modem chipset is within one level of ordinary skill in the art in the absence of any unexpected results. And the power ranges can be determined according to the desired design criteria.

Regarding claim 18, wherein the amplifier circuit is operated as a Doherty-type amplifier and a class AB amplifier.

Allowable Subject Matter

Claims 2-9, 12, 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 21-37 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claims 2-9, 12, 21-37 call for, among others, a phase control unit for tuning a phase difference to within a phase tolerance.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references (Mitzlaff (5,757,229); Stengel et al. (6,262,629); Stengel et al. (6,356,149); Leizerovich et al. (6,374,092); Pehlke

(6,396,341); Kobayashi (6,469,581); Pengelly et al. (6,791,417)) show further analogous prior art circuitry having carrier and peak amplifiers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh V. Nguyen whose telephone number is (571) 272-1767. The examiner can normally be reached from 8:00 AM - 3:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Khanh Van Nguyen', with a long horizontal flourish extending to the right.

KHANH VAN NGUYEN
PRIMARY EXAMINER
Art Unit: 2817